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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,672	07/21/2003	Andres C. Callegari	HESI.105843	5070
30903	7590	06/03/2005	EXAMINER	
CRAIN CATON & JAMES FIVE HOUSTON CENTER 17TH FLOOR HOUSTON, TX 77010-4035			LUU, SY D	
			ART UNIT	PAPER NUMBER
			2174	

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/623,672

Applicant(s)

CALLEGARI, ANDRES C.

Examiner

Sy D Luu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☒ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/28/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to the Amendment and Response filed on 2/24/05.

This action is Non-Final.

2. Claims 1-60 are pending in this application. Claims 1, 24, 30, 37, 50, 56, and 60 are independent claims.

Claim Rejections - 35 USC § 10

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-4, 12, 18-20, 24-26, 30-33, 37-38, 50-52, and 56-60 rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art ("AAPA").

As per claims 1 and 12, AAPA discloses a method for the remote display of graphical data, the graphical data representing a three-dimensional model of an object (Specification; page 2, paragraph [006]; *Conventional Techniques*), the method comprising the steps of:

rendering the graphical data on a server to form a projection view image, and processing the projection view image on a server graphics accelerator (Specification; page 2, paragraph [005]; *Graphics accelerators*) to produce a scaled-down image having a transmission size less than a transmission size of the projection view image (Specification; page 4, paragraph [0011]; *OpenGL Performer and Open GL Vizserver*);

transmitting the scaled-down image from the server to a client, wherein the server and the client operate in a remote execution networking environment (Specification; page 2, paragraph [006]; *Conventional Techniques*).

processing the scaled-down image on a client graphics accelerator to substantially reproduce the projection view image, and displaying the substantially reproduced projection view image on the client (Specification; page 5, paragraph [0012]; *OpenGL Performer and OpenGL Vizserver*).

Since AAPA-Conventional Techniques do not necessary include the steps of transmitting, processing a scaled-down image from the server to the client, it would have been obvious to an artisan at the time of the invention to combine the teaching of AAPA-OpenGL with AAPA-Conventional Techniques in order to efficiently take advantage of distributed processing as well as increasing performance.

The server/client system of AAPA-Conventional Techniques and AAPA-OpenGL does not explicitly indicate the use of a graphics accelerators. However, as disclosed in paragraph [005] on page 2 of the Specification, it is well known for such use. Therefore, It would have been obvious to an artisan at the time of the invention to include graphics accelerators with the server/client system of AAPA-Conventional Techniques and AAPA-OpenGL in order to increase image processing performance.

As per claim 3, AAPA teaches the scaled-down image to be transmitted from the server graphics accelerator to the client graphics accelerator through a network medium (Specification; page 2, paragraph [006]; *inherent step for the client graphics accelerator to properly process the graphics data*).

As per claim 4, AAPA teaches the projection view image to be substantially reproduced on the client graphics accelerator by scaling the scaled-down image to increase the transmission size of the scaled-down image (Specification; page 5, paragraph [0011]).

As per claims 18-19, AAPA teaches the step of compressing the scaled-down image on the server to further reduce the transmission size of the scaled-down image, and retrieving information from the client graphics accelerator to reformat the scaled-down image into the native processing format of the client (Specification; pages 4-5, paragraphs [0011-0012]).

Claim 20 is similar in scope to claim 1, except that it merely repeat the same step with a new image. Thus, claim 20 would be rejected under similar rationale.

Claims 24-26 are similar in scope to claims 1-2 and 20 respectively, and are therefore rejected under similar rationale.

Claims 30-31 are similar in scope to claim 1, and are therefore rejected under similar rationale.

Claims 32-33, and 37-38 are similar in scope to claims 4-5, 1 and 20 respectively, and are therefore rejected under similar rationale.

Claims 50-52 are similar in scope to claims 24-26 respectively, and are therefore rejected under similar rationale.

Claims 56-60 are similar in scope to claims 30-33 and 38 respectively, and are therefore rejected under similar rationale.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art ("AAPA") in view of Shuping et al. ("Shuping", US 6,313,855 B1).

As per claim 2, AAPA teaches processing the projection view image on the server graphics accelerator to comprise the steps of:

reformatting the projection view image into a native processing format of the server, binding the reformatted projection view image into a texture memory to form a texture map (Specification, page 2, para [005-007]); and

reformatting the scaled-down image into a native processing format of the client (Specification, page 2, para [0011-0012]).

AAPA does not teach the step of applying the texture map to a polygon having a predetermined scaling factor to form the scaled-down image. However, such a step is known in the art. For instance, Shuping teaches a method for rendering images, thumbnail images are mapped according to predetermined texture mapping (col. 11, lines 40-45). It would have been obvious to an artisan at the time of the invention to combine Shuping's teaching with AAPA in order to reduce image distortion.

6. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art ("AAPA") in view of Yagishita et al. ("Yagishita", US 2003/012881 A1).

As per claim 5, AAPA does not teach the substantially reproduced projection view image to be displayed on the client to a user using adaptive resolution. However, the use of adaptive resolution is known in the art. For instance, Yagishita teaches an image data encoding apparatus, wherein an image is displayed using adaptive resolution (page 2, para [0024]). It would have been obvious to an artisan at the time of the invention to combine Yagishita's teaching with

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AAPA's method so that the user can quickly recognize the contents of the received image and potentially could save the cost for transmission if it's not the desired one (page 1, para [006]).

As per claim 6, Yagishita's adaptive resolution adaptive resolution to comprise adaptively setting end resolution from lossy to lossless factors (figs 7A-7C).

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art ("AAPA"), Yagishita et al. ("Yagishita", US 2003/012881 A1) in view of Taha et al. ("Taha", US 20030083581 A1).

As per claim 7, AAPA-Yagishita teach all of the limitations as applied to claim 6, but does not teach the substantially reproduced projection view image to be displayed using lossy factors while the graphical data is being manipulated. However, the use of lossy factors in manipulation data is known in the art. For instance, Taha teaches a method for graphical data manipulation in which the graphical data is manipulated using lossy factors (page 4; claim 18). It would have been obvious to an artisan at the time of the invention to include Taha's teaching with the method of AAPA-Yagishita in order to provide additional compression efficiency if required.

8. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art ("AAPA"), Yagishita et al. ("Yagishita", US 2003/012881 A1) in view of Nakayama et al. ("Nakayama", US 6,560,365 B1).

As per claim 8, AAPA teaches all of the limitations as applied to claim 6, but does not teach the substantially reproduced projection view image to be displayed using lossless factors

while the graphical data is stationary. However, the use of lossless factors while graphical data is stationary is well known in the art. For instance, Nakayama discloses a method for decoding compressed image data, wherein the image is displayed using lossless factors while the image is stationary/static (col. 1, lines 11-17). It would have been obvious to an artisan at the time of the invention to include Nakayama's teaching with the method of AAPA-Nakayama in order to prevent deterioration of image quality.

As per claim 9, AAPA teaches the substantially reproduced projection view image to be displayed in a one-to-one pixel resolution (page 5, para [0012]; *one-to-one pixel resolution would occur when the image is enlarged to the original size at the client*).

Claims 10-11, 13-17, 21-23, 27-29, 34-36, 39-43, and 53-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art ("AAPA").

As per claims 10-11, and 13-17, AAPA does not explicitly disclose the claim limitations. However, Official Notice is taken that all claim limitations regarding the server/client functions and the manner of client/server connections as recited are well known in the art. It would have been obvious to an artisan at the time of the invention to include such arrangement with the method of AAPA in order to provide efficient means for organizing client/server connectability and functionality.

As per claims 21-23, AAPA discloses the step of transmitting data to the client for enabling a user to manipulate the graphical data as the substantially reproduced new projection view image is displayed, (Specification; page 3, paragraph [009] and page 5, para [0011-0012]). AAPA does not expressly disclose the transmitting data to include protocols, wherein the protocols comprise window protocol calls as well as user interface information. However, the

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transmission of protocols from a server to the associated client is well known in the art. It would have been obvious to an artisan at the time of the invention to include such a step with AAPA so that image information as well as instruction for image handling would be provided to the client for proper processing.

Claims 27-29 are similar in scope to claims 21-23 respectively, and are therefore rejected under similar rationale.

Claims 34-36 are similar in scope to claims 21-23 respectively, and are therefore rejected under similar rationale.

Claims 39-41 are similar in scope to claims 21-23 respectively, and are therefore rejected under similar rationale.

Claims 42-43 and 45-49 are similar in scope to claims 10-11 and 13-17 respectively, and are therefore rejected under similar rationale.

Claims 53-55 are similar in scope to claims 27-29 respectively, and are therefore rejected under similar rationale.

Response to Arguments

9. Applicant's arguments with respect to claim 1-60 have been considered but are moot in view of the new ground(s) of rejection.

Inquires

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sy Luu whose telephone number is (571) 272-4064. The examiner can normally be reached on Monday - Friday from 7:300 am to 4:00 pm (EST).

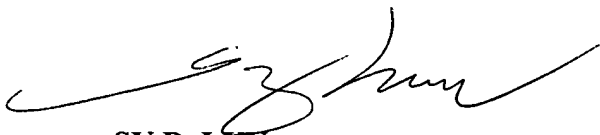
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid, can be reached on (571) 272-4063.

The fax number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SY D. LUU
PRIMARY EXAMINER
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